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4x4 HDMI Matrix 4K
User's Guide

P/N:Matrix44-HD20

Thank you for purchasing from gofanco. Our products aim to meet all your connectivity needs wherever you go. For optimum performance and safety, please read the instructions carefully and keep this User's Guide for future reference. If you need more information about our products, please visit www.gofanco.com. For technical support, email us at support@gofanco.com. For drivers or manual download, please go to www.gofanco.com/download.

Important Safety Notices

Please read safety instructions carefully before installation and operation.

- Please pay close attention to all warnings and hints for this device

- Do not expose this unit to rain, heavy moisture, or liquid

- Do not put any items into the device or attempt to modify its operation

- Do not repair the device or open the enclosure without professional guidance to avoid electric shocks. Doing so may void your warranty

- Keep the product in a well-ventilated location to avoid damage from overheating

- Shut off power and make sure environment is safe before installation

- Do not plug the HDMI cables and IR cables in/out when the device is in use to avoid cable damage. Make sure they are plugged into the correct ports

- Use the included 5VDC power adapter only. Make sure the specification matches if using 3rd-party DC power adapters

Introduction

The 4x4 HDBaseT Matrix 4K allows you to select and switch between any of the 4 HDMI source devices to display on any of the 4 HDMI outputs.

Features

- Compliant with HDMI 2.0 and HDCP 2.2 specifications
- Bandwidth up to 18Gbps
- Supports resolutions up to 4K@60Hz YUV 4:4:4, 4K@60Hz YUV 4:2:0 HDR
- Supports Dolby True HD, DTS-HD master audio, and Dolby Atmos under copy EDID mode audio formats
- Smart EDID management allows you to select the output resolution to match the connected displays
- Supports firmware upgrade through USB port

Installation Requirements

- HDMI source devices (DVD player, set top box, PC, etc.)
- HDMI displays (SDTV/Monitor, HDTV/Monitor, projector, etc.)
- HDMI cables (not included)

Package Contents

- 1x 4x4 HDMI Matrix 4K
- 1x Mounting kit
- 1x IR remote control
- 1x IR Receiver cable
- 1x Software CD
- 1x Phoenix plug for RS232 control
- 1x Power adapter (5VDC)
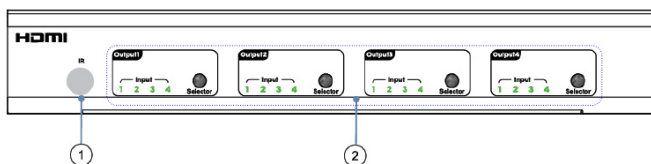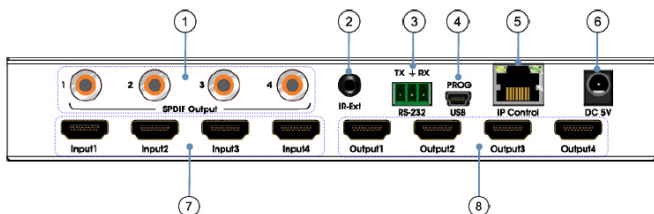- 1x User's guide

Product Layout

Figure 1: Front Panel Layout

No.	Name	Description
1	IR Receiver	Receives IR signal from the included remote control
2	Input Selector Button	Press the Selector button to choose the HDMI Input to view on the display device

Note:
1) Turn On/Off DHCP: Press Selector button of Output 1 and Output 2 simultaneously for 3 seconds.
2) Restore factory default settings: Select all outputs to Input 1, then press the Selector button of Output 3 and Output 4 simultaneously for 3 seconds.

Figure 2: Rear Panel Layout

No.	Name	Description
1	S/PDIF Out (1-4)	S/PDIF audio output connectors
2	IR Receiver	Connects to the included IR Receiver cable, receives signals from the included remote control
3	RS232	Connects to PC for RS232 software control or firmware update
4	USB	Firmware update
5	RJ45 Control	IP network control
6	Power Jack	Connects to the included power adapter
7	HDMI Input (1-4)	Connects to HDMI source device
8	HDMI Output (1-4)	Connects to HDMI display

Hardware Installation

1. Power off all devices including your HDMI source(s) and HDMI display(s).

2. Connect your HDMI source devices to the Matrix 4K's HDMI Input connectors with HDMI cables (HDMI cables not included).

3. Connect your HDMI displays to the Matrix 4K's HDMI Output connectors with HDMI cables (HDMI cables not included).

4. Optional: Connect the included IR Receiver cable to the IR interface port. This connection is needed only if the front panel IR receiver window is not accessible.

5. Optional: Connect an AVR amplifier or speakers to the S/PDIF output ports.

6. Optional: Connect the Matrix 4K's RS232 socket and your PC's serial port or a CAT cable between the Matrix 4K's RJ45 port and router or PC's ethernet port. This connection is needed only if matrix device control using a PC is required.

7. Plug the included power adapter into the Matrix 4K's Power Jack, then plug the power adapter into a reliable power outlet.

8. Power on all connected devices. The Matrix 4K is ready for use.

Application Diagram

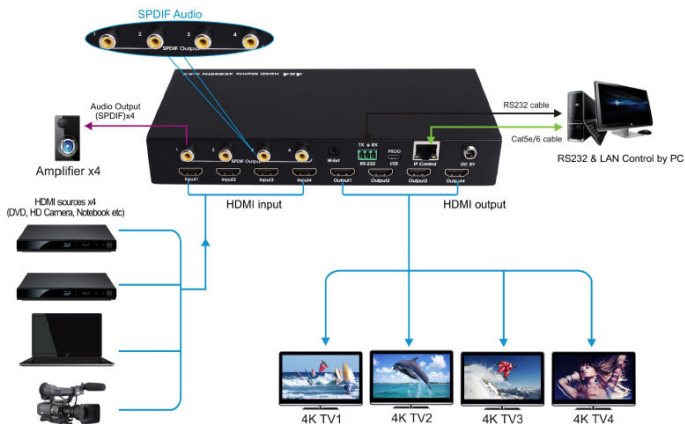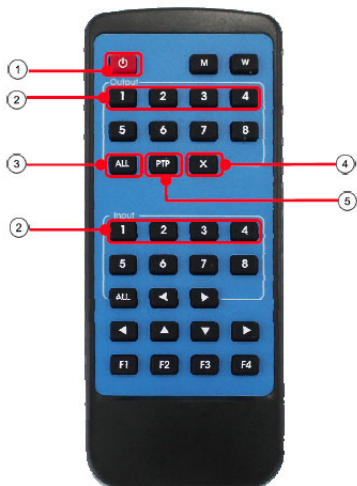The application diagram shows the most typical input and output devices used with the 4x4 HDMI Matrix 4K.

Figure 3: Application Diagram

Matrix Device Control

Remote Control

Users can control the 4x4 HDMI Matrix 4K using the included IR remote.   Point the remote control towards the built-in IR receiver window located on the front panel.   An optional IR receiver cable is included to improve IR function in space constrained installations.

No.	Name	Description
1	Standby Mode	Press to place the Matrix into standby mode
2	Output (1-4) / Input (1-4)	Output and Input selection button
3	All (Output)	Selects all outputs to one input
4	X	Cancels switching operation
5	PTP	Mirror all inputs and outputs

RS232 Control

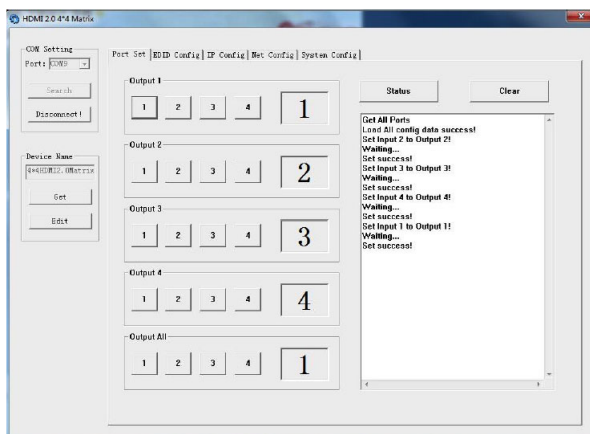Connect the 4x4 HDMI Matrix 4K to a PC using an RS232 cable.

RS232 Pin Assignment

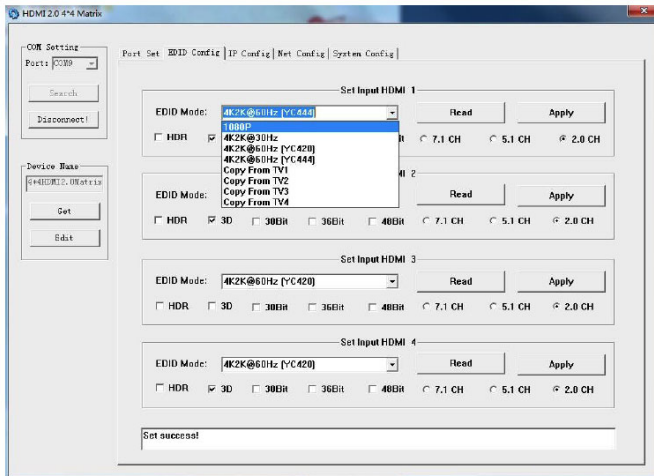| Matrix		Remote Control Console	
Assignment		PIN	Assignment
		1	NC
Tx		2	Rx
Rx		3	Tx
		4	NC
GND		5	GND
		6	NC
		7	NC
		8	NC
		9	NC

Software Control

Open the software on the included software CD and the control window appears as shown below.

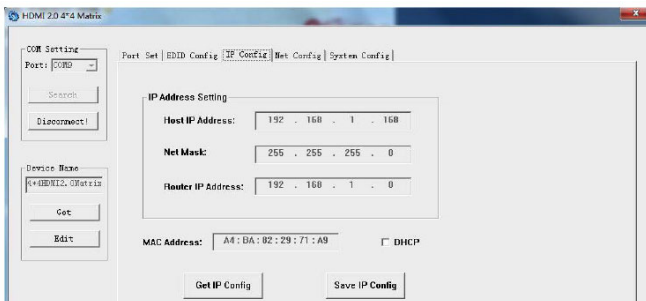In COM Setting, select the PC's COM port and click Connect.

EDID Config
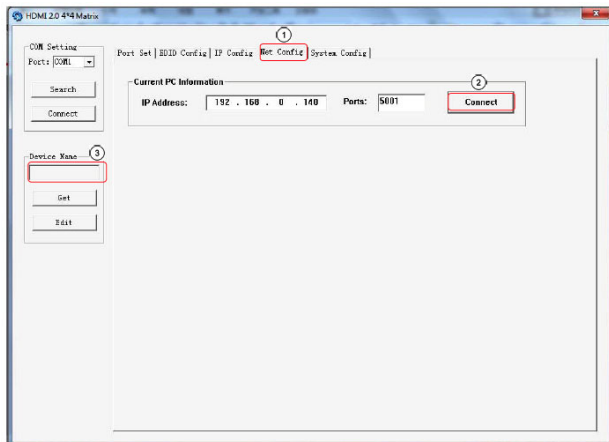
Allows you to read and configure the EDID for each input.

IP Config

Allows you to read and configure the IP address. Select DHCP if you want the DHCP server to assign an IP address automatically.
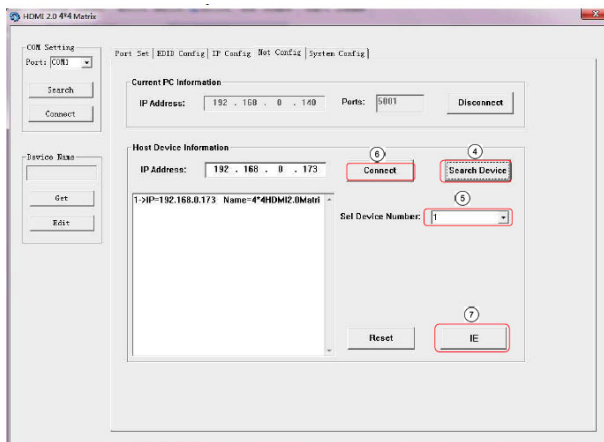
<u>Net Config</u>

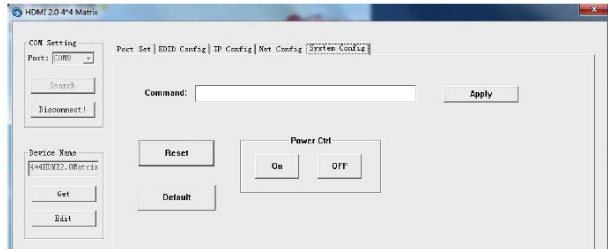Allows you to configure the PC and Matrix in the same LAN and subnet.

An option is to click IE to enter the browser.

System Config

Allows you to power On/Off, reset, and return the Matrix to its default settings.
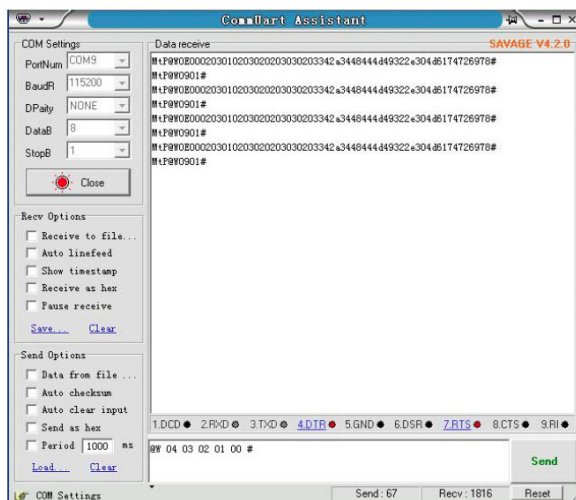
Command Control

Open CommUart Assistant on the software CD.

<u>COM Port Setting</u>

Baud Rate:	115200 bps
Parity:	None
Data Bits:	8 bit
Stop Bits:	1 bit

<u>Port Command Window</u>

Enter the port command and click Send.

Commands

Command	Function	Note
@W 04 00 01 02 03 #	PTP Function	Mirror all inputs and outputs (Ex. Input 1 to output 1, input 2 to output 2, etc)
@W 50 #	Reboot	
@W 51 #	Restore Factory Setting	
@W 0F 00 #	Standby	00: Standby Mode 01: Cancel "Standby Mode"

Select HDMI Input to HDMI Output

Command	Description
00	Output1
01	Output2
02	Output3
03	Output4
04	All Output
00	Input1
01	Input2
02	Input3
03	Input4

E.g: @W 00 00 #: Output 1 display Input1

Output 1 ⎇ ⎇ Input1

EDID Setting

@W XX AA BB #:

Parameter Description:

XX for configuration of **"INPUT EDID"**

Command	05	06	07	08
Description	Input1	Input2	Input3	Input4

AA for selecting **"Video Mode"**

Command	00	01	02	03
Description	1080P	4K2K_30	4K2K_60(YC420)	4K2K_60(YC444)

BB for selecting below function

Bit7	Bit6	Bit5	Bit4	Bit3	Bit2	Bit1	Bit0
HDR	48Bit	36Bit	30Bit	7.1CH	5.1CH	2CH	3D
1	1	1	1	1	1	1	1
0	0	0	0	0	0	0	0

"1" : choose the function, "0" : doesn't choose the function.

E.g: 11001001: HDR, 48Bit, 7.1CH, 3D

Chang Binary code "11001001" to hexadecimal format "C9".

E.g: @W 05 03 C9 #
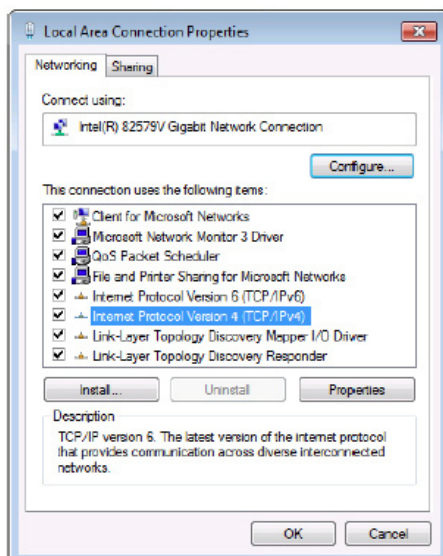
The EDID of input 1 is: 4K2K_60(YC444)、HDR、48Bit、7.1CH、3D.

Web Control

Default IP Address

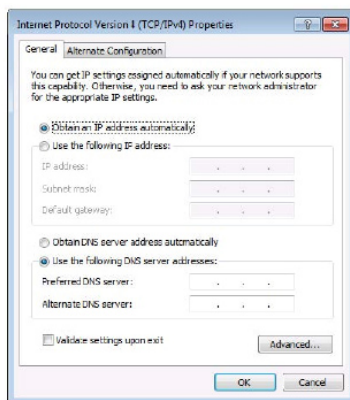The default IP address of the Matrix 4K is 192.168.1.168.

Change the IP address of our PC

1.   Connect the Matrix 44 and your PC to the LAN.
2.   Configure you PC as follows:

    1. Click Start / Control Panel / Network and Sharing Center.

    2. Click Change Adapter Settings.

    3. Highlight the network adapter you want to use to connect to the device and click **Change settings of the connection**.

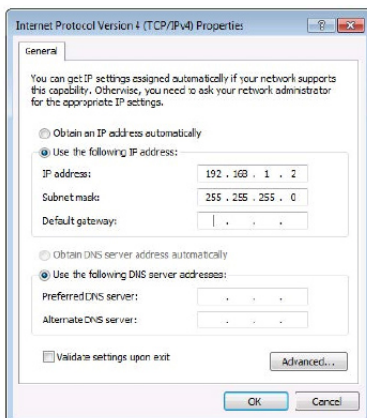3.   Highlight **Internet Protocol Version 4 (TCP/IP/4)**.

4.   Click **Properties**.

5.   Select **Use the following IP Address**, and then enter
      the IP address. **Note**: You can use any IP address in
      the range: 192.168.1.2 to 192.168.1.254 (excluding
      192.168.1.168).
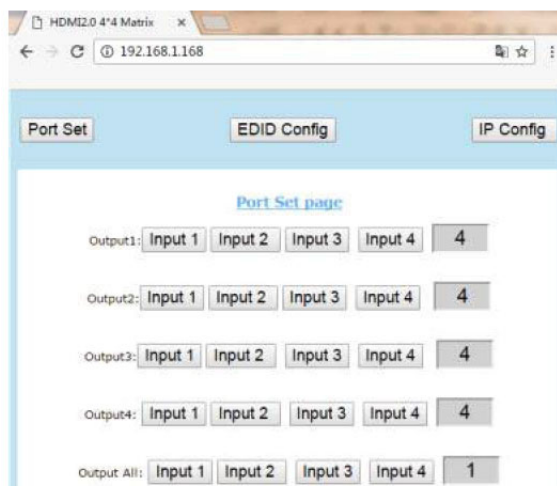

6.   Click **OK** to save the changes.
7.   Click **Close** to exit.

Web Browser Control

Open your web browser and enter the Matrix 4K's IP address 192.168.1.168 into the address bar, and press **Enter**.

Port Setting

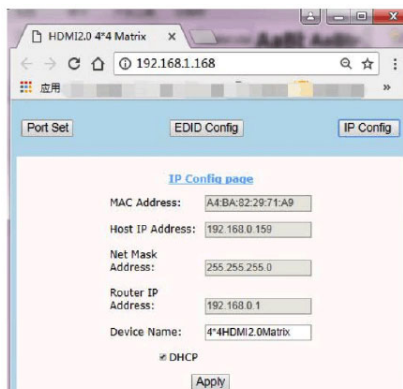Assign any of the input devices to any of the outputs.

EDID Config
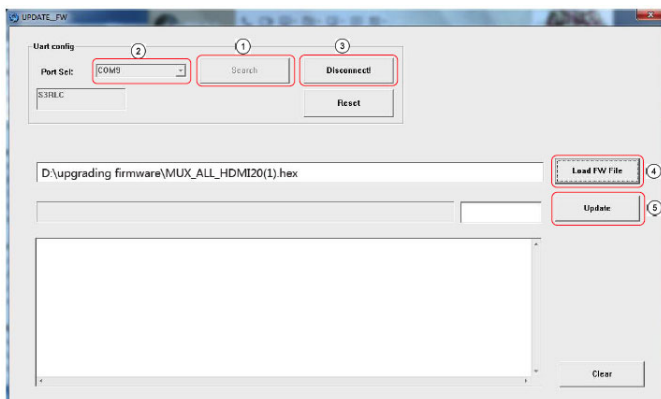
Set the EDID for the HDMI Inputs.

IP Config

Enter the network setting, and enable DHCP.

Firmware Update

1. Connect the Matrix 4K to the PC using either the USB port or RS232 port.
2. Open the update software on the CD.
3. Click **Search**, choose the COM port of the PC, then click **Connect**.
4. When you see **S3RC**, click **Load FW File** to load the firmware.
5. Click **Update**. The update process will take up to 1 minute to complete.

Specifications

Operating Temperature	23° to 113° F (-5° to 45° C)
Storage Temperature	-4° to 140° F (-20° to 60° C)
Resolution	480p@60Hz, 576p@50Hz, 720p@60hz, 1080p@24Hz, 1080p@50Hz, 1080p@60Hz, 4K@24Hz, 4K@30Hz, 4K@60Hz YUV 4:2:0, 4K@60Hz YUV 4:4:4
HDCP Compliance	HDCP 2.2 and HDCP 1.4
Output Video	HDMI 2.0 and HDMI 1.4
Audio Format Supported	PCM, Dolby 5.1/7.1, DTS 5.1/7.1 digital audio, Dolby Atmos
RS232 Serial Port	3-pin terminal block connectors
Ethernet Port (IP Control)	RJ45, Female
IR Ext Port	3.5mm stereo jack
USB Port	Micro 5P, Female
Bandwidth	18 Gbps
Default IP	192.168.1.168
Rack Mountable	Rack ears included
Dimensions (L x W x H)	216 x 105 x 34 (mm)
Net Weight	0.72 Kg
Power Consumption	13 watts (Max)

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